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June 10, 2003

MS FEE AMENDMENT  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Re: Serial No. 09/993,711  
Atty. Docket: 74240.0102

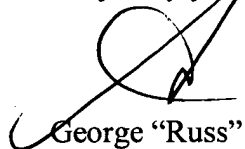
Sir:

Enclosed for filing are the following documents:

1. Amendment and Response;
2. Certificate of Mailing by First Class Mail; and
3. Postcard receipt.

The Commissioner is hereby authorized to charge any underpayment of fees in connection with this application, or credit any overpayment, to Deposit Account No. 50-2225.

Very truly yours,



George "Russ" Schultz

GRS:dt  
Enclosure

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JUN 18 2003  
**GROUP 3600**

3679

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Applicant: DENNIS D. SHUMARD  
Serial No.: 09/993,711  
Filed: November 5, 2001  
For: CONCENTRIC PIPE JOINT CONSTRAINT  
Examiner: Giovanna M. Collins  
Group Art Unit: 3679

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**CERTIFICATE OF MAILING BY FIRST CLASS MAIL**

The undersigned hereby certifies that the following documents:

1. Amendment and Response;
4. Transmittal letter (in duplicate); and
5. A postcard receipt;

relating to the above application, were deposited as "First Class Mail", with sufficient postage thereon, with the United States Postal Service, addressed to MS FEE AMENDMENT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on 6/12/03.

*Diane Taylor*  
Mailer



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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MS FEE AMENDMENT  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

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Sir:

**RESPONSE AND AMENDMENT**

This Response and Amendment is in response to the Office Action dated May 16, 2003.

**Amendment**

Please amend claims 1, 2, 5, 6, 7, 8, 9, 10 and 11 as follows:

1. (Currently amended) A concentric pipe joint constraint, said restraint resisting axial movement of a spigot pipe relative to a socket pipe within which a portion of said spigot pipe has been inserted, said spigot pipe and said socket pipe defining an annulus, said restraint comprising:

a spigot wedge ring comprising one or more spigot gripping protrusions;

socket wedge ring comprising one or more socket gripping protrusions; and

a positioning member separating [wedge housing positioning] said spigot wedge ring relative to said socket wedge ring with which it is in effective contact in said annulus such

that said spigot gripping protrusions grip said spigot pipe and said socket gripping protrusions grip said socket pipe.

2. (Currently amended) The restraint of claim 1 wherein:

said spigot wedge ring further comprises a frusto-conical surface; and

said socket wedge ring further comprises an opposed frusto-conical surface in effective contact with said positioning member [frusto-conical surface].

3. (Original) The restraint of claim 2 wherein the gripping protrusions are biased to prevent axial separation of the pipes.

4. (Original) The restraint of claim 3 wherein the frusto-conical surfaces are biased to prevent axial separation of the pipes.

5. (Amended) A concentric pipe joint constraint, said restraint resisting axial movement of a spigot pipe relative to a socket pipe within which a portion of said spigot pipe has been inserted, said spigot pipe and said socket pipe defining an annulus, said restraint comprising:

a spigot wedge ring comprising one or more spigot gripping protrusions;

socket wedge ring comprising one or more socket gripping protrusions;

a wedge housing positioning said spigot wedge ring relative to said socket wedge ring with which it is in effective contact in said annulus such that said spigot gripping protrusions grip said spigot pipe and said socket gripping protrusions grip said socket pipe;

wherein said spigot wedge ring further comprises a frusto-conical surface;

said socket wedge ring further comprises an opposed frusto-conical surface in effective contact with said frusto-conical surface;

the gripping protrusions are biased to prevent axial separation of the pipes;

the frusto-conical surfaces are biased to prevent axial separation of the pipes; and

[the restraint of claim 4 further comprising] an actuator driving said gripping protrusions into said pipes by imparting axial movement of said wedge rings relative to one another, said axial movement imparting sliding axio-radial movement of said frusto-conical surfaces relative to one another.

6. (Currently amended) A concentric pipe joint constraint, said restraint resisting axial movement of a spigot pipe relative to a socket pipe within which a portion of said spigot pipe has been inserted, said spigot pipe and said socket pipe defining an annulus, said restraint comprising:

a spigot wedge ring comprising one or more spigot gripping protrusions;

socket wedge ring comprising one or more socket gripping protrusions;

a wedge housing positioning said spigot wedge ring relative to said socket wedge ring with which it is in effective contact in said annulus such that said spigot gripping protrusions grip said spigot pipe and said socket gripping protrusions grip said socket pipe;

wherein said spigot wedge ring further comprises a frusto-conical surface;

said socket wedge ring further comprises an opposed frusto-conical surface in effective contact with said frusto-conical surface; and

[The restraint of claim 2] wherein the gripping protrusions are biased to prevent axial compression of the pipes.

7. (Currently amended) A concentric pipe joint constraint, said restraint resisting axial movement of a spigot pipe relative to a socket pipe within which a portion of said spigot pipe has been inserted, said spigot pipe and said socket pipe defining an annulus, said restraint comprising:

a spigot wedge ring comprising one or more spigot gripping protrusions;

socket wedge ring comprising one or more socket gripping protrusions;

a wedge housing positioning said spigot wedge ring relative to said socket wedge ring with which it is in effective contact in said annulus such that said spigot gripping protrusions grip said spigot pipe and said socket gripping protrusions grip said socket pipe;

wherein said spigot wedge ring further comprises a frusto-conical surface;

said socket wedge ring further comprises an opposed frusto-conical surface in effective contact with said frusto-conical surface;

the gripping protrusions are biased to prevent axial compression of the pipes; and

3,  
(cont)  
[The restraint of claim 6] wherein the frusto-conical surfaces are biased to prevent axial compression of the pipes.

8. (Currently amended) A concentric pipe joint constraint, said restraint resisting axial movement of a spigot pipe relative to a socket pipe within which a portion of said spigot pipe has been inserted, said spigot pipe and said socket pipe defining an annulus, said restraint comprising:

a spigot wedge ring comprising one or more spigot gripping protrusions;

socket wedge ring comprising one or more socket gripping protrusions;

a wedge housing positioning said spigot wedge ring relative to said socket wedge ring with which it is in effective contact in said annulus such that said spigot gripping protrusions grip said spigot pipe and said socket gripping protrusions grip said socket pipe;

wherein said spigot wedge ring further comprises a frusto-conical surface;  
said socket wedge ring further comprises an opposed frusto-conical surface in effective contact with said frusto-conical surface;

the gripping protrusions are biased to prevent axial compression of the pipes;  
the frusto-conical surfaces are biased to prevent axial compression of the pipes;  
and

[The restraint of claim 7 further comprising] an actuator driving said gripping protrusions into said pipes by imparting axial movement of said wedge rings relative to one another, said axial movement imparting sliding axio-radial movement of said frusto-conical surfaces relative to one another.

B<sub>1</sub>  
(cont) 9. (Currently amended) The restraint of claim 6 [2] wherein the frusto-conical surfaces are biased to prevent axial separation of the pipes.

10. (Currently amended) A concentric pipe joint constraint, said restraint resisting axial movement of a spigot pipe relative to a socket pipe within which a portion of said spigot pipe has been inserted, said spigot pipe and said socket pipe defining an annulus, said restraint comprising:

a spigot wedge ring comprising one or more spigot gripping protrusions;  
socket wedge ring comprising one or more socket gripping protrusions;

a wedge housing positioning said spigot wedge ring relative to said socket wedge ring with which it is in effective contact in said annulus such that said spigot gripping protrusions grip said spigot pipe and said socket gripping protrusions grip said socket pipe; and

said spigot wedge ring further comprises a frusto-conical surface;

said socket wedge ring further comprises an opposed frusto-conical surface in effective contact with said frusto-conical surface;

[The restraint of claim 2] wherein the frusto-conical surfaces are biased to prevent axial separation of the pipes; and

an actuator driving said gripping protrusions into said pipes by imparting axial movement of said wedge rings relative to one another, said axial movement imparting sliding axio-radial movement of said frusto-conical surfaces relative to one another.

11. (Currently amended) A concentric pipe joint constraint, said restraint resisting axial movement of a spigot pipe relative to a socket pipe within which a portion of said spigot pipe has been inserted, said spigot pipe and said socket pipe defining an annulus, said restraint comprising:

a spigot wedge ring comprising one or more spigot gripping protrusions;

socket wedge ring comprising one or more socket gripping protrusions;

a wedge housing positioning said spigot wedge ring relative to said socket wedge ring with which it is in effective contact in said annulus such that said spigot gripping protrusions grip said spigot pipe and said socket gripping protrusions grip said socket pipe;

said spigot wedge ring further comprises a frusto-conical surface;



said socket wedge ring further comprises an opposed frusto-conical surface in effective contact with said frusto-conical surface; and

[The restraint of claim 2] wherein the frusto-conical surfaces are biased to prevent axial compression of the pipes.

12. (Original) The restraint of claim 11 further comprising an actuator driving said gripping protrusions into said pipes by imparting axial movement of said wedge rings relative to one another, said axial movement imparting sliding axio-radial movement of said frusto-conical surfaces relative to one another.

B.  
(amended)

13. (Original) The restraint of claim 2 wherein at least one wedge ring further comprises circumferential end portions.

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